WISCONSIN AIR TOXICS RULES

REVISIONS TO WISCONSIN'S AIR TOXICS RULE NR 445, EFFECTIVE JULY 1, 2004

The State of Wisconsin has regulated air toxics since 1988 to protect people from breathing air toxics at levels that threaten their health. The original Chapter NR 445 of the Wisconsin Administrative Code set emission standards for 438 hazardous air contaminants. These are substances that are known or suspected to cause cancer, or known to cause health effects such as asthma and other respiratory damage, kidney failure, heart failure, infertility, and birth defects. The Department of Natural Resources (DNR) has revised NR 445 to accomplish two objectives:

- Update the list of regulated substances and emission standards to reflect advances in scientific and medical knowledge.
- Simplify the regulatory process by reducing administrative work related to the rule and making the rule more flexible.

This fact sheet summarizes the most significant changes made to NR 445.

EMISSION STANDARDS AND CONTROL REQUIREMENTS

[NR445.07— Tables A, B, C]

Updating the list of regulated substances and emission standards

Since the 1980s, toxicologists have found more chemicals that are harmful to human health. They are also learning more about the level of toxicity of these chemicals. NR 445 has been revised to reflect these findings by:

- Adding 103 substances
- Removing 5 substances
- Setting more stringent emission standards for 130 currently regulated substances
- Setting less stringent emission standards for 86 currently regulated substances

The revised NR 445 now lists a total of 535 substances.

Consolidating the tables

The pollutants are listed in one of three tables, each of which includes important regulatory information needed about each substance. This includes an alphabetical listing of the pollutants, with their Chemical Abstracts Service (CAS) numbers, their emission thresholds and standards, and compliance schedules. Common synonyms have been added to the tables to make it easier to find the substance.

- Table A applies to all sources of emissions
- Table B applies only to facilities that manufacture or treat pesticides or similar substances
- Table C applies only to facilities that manufacture or treat pharmaceuticals

Revising threshold tables

The emission thresholds act as a regulatory filter. Emissions that are below the threshold do not pose a health hazard, and facilities with such emissions need do nothing further to comply with NR 445 standards. Two significant changes are made to the threshold tables.

1. **Threshold levels**: Health-based thresholds are established for carcinogenic substances where the potency of the carcinogen is known. Thresholds are set at a 1-in-100,000 risk level.

2. **Threshold categories**: Thresholds can differ depending on the height of the stack. The revised rule contains four stack height categories. The addition of two stack height categories allows many more facilities to determine whether they meet emissions standards simply by looking at the table.

INCIDENTAL EMITTERS

[NR445.11]
Facilities that are likely to emit minimal air toxics, if any, will fall into a new source category called "Incidental Emitters." This category includes most non-manufacturers and those manufacturers that emit less than 3 tons per year of volatile organic compounds and less than 5 tons per year of particulate matter. These facilities may limit their search and inquiry to certain processes (e.g. chrome electroplating,) and a shorter list of chemicals of concern (Table E). Incidental Emitters must meet all regulatory requirements, but only for those chemicals and processes identified during their limited search and inquiry. See fact sheet for further details.

THE SEARCH AND INQUIRY PROCESS

Due diligence

[NR445.02(5)]
The rule defines due diligence as a reasonable investigation of likely sources of air emissions. These include investigating the following:

1. Substances listed on Material Safety Data Sheets (MSDS) or other sources of information

2. Substances that are reasonably expected to be created through a combustion or manufacturing process

3. Substances contained in or created through the treatment or disposal of raw materials or waste.

Safe harbor

[NR445.06]
Facilities that exercise due diligence and meet the applicable compliance requirements for the identified emissions will not be penalized if it is subsequently discovered that they emit a regulated substance over threshold levels. While facilities will be required to promptly inform the DNR of their discovery and to come into compliance in a timely manner, they will not face retroactive penalties.

COMPLIANCE OPTIONS

The NR445 revisions introduce additional compliance options including alternative compliance strategies and modeling "off-ramps".

Alternatives to Control Requirements for Sources of Carcinogens

[NR445.08(3)]
As an alternative to meeting the technology-based control requirement standards, facilities may choose to manage their carcinogenic substances so that their emissions do not exceed a particular level of risk. They can do any of the following:

- Use product substitution or operational controls to limit emissions below thresholds.
- Show, through air dispersion modeling, that the off-property risk is less than 1-in-1-million for an individual carginogen.
- Show, through air dispersion modeling, that the cumulative off-property risk is less than 1-in-100,000 for all carcinogens. This showing includes any exempt emissions.

Modeling "off-ramp"

[NR 445.08(5)(d)]
Facilities may use an air dispersion computer model to demonstrate that the emissions at their particular site do not exceed the ambient air concentration standard for non-carcinogenic substances, or the risk levels for carcinogenic substances.

The computer model helps facilities evaluate which changes (stack height increases or operational limitations) they can make most easily to come into compliance with the emission standards.

PERMIT REQUIREMENTS

Self-certification

[NR445.08(7)]

Facilities may self-certify compliance with NR 445 requirements rather than revise operation permits or obtain a construction permit, except for situations where a source needs to comply with control requirements for carcinogens. In those situations, facilities will need to work closely with DNR air permit staff to ensure they are meeting all requirements. Most new compliance requirements will be written into the operation permit during the normal permit renewal or issuance cycle.

NR 445 and Maximum Achievable Control Technology (MACT)

[NR445.01(1)(b)]

NR 445 does not apply to emissions that are regulated by a federal MACT standard under Section 112 of the Clean Air Act. However, NR 445 does apply to emissions that ***are not*** regulated by a MACT standard.

Examples of facilities or emissions that are regulated by NR 445 include:

- Facilities that are not in an industry source category for which a MACT standard exists.
- Facilities in a MACT source category but that ***are not*** major sources and therefore are not regulated by the MACT standard. This includes those taking operational limits to avoid major source status.
- Emissions units, operations or activities at a facility subject to a MACT standard, but which are not regulated by the MACT standard.
- Hazardous air pollutants that are not regulated by a MACT standard.

For example, the MACT standard may regulate VOC but not particulate emissions. In that case the particulate emissions are regulated under NR 445.

CONTROL REQUIREMENTS FOR CERTAIN SOURCE CATEGORIES

New to NR 445 are requirements for controlling emissions of diesel and coal dust particulate.

Compression Ignition (CI) Internal Combustion Engines

[NR445.09]

Starting in July 2006, CI engines (i.e., diesel generators) of 100 hp or more must use fuel oil with sulfur content no greater than that allowed for on-road use.

CI engines at a single location for 12 months and burning 10,000 gallons of fuel oil must control their particulate emissions.

Sources that Handle or Store Coal

[NR 445.10]

Facilities that handle or store more than 1,000 tons of coal a year must:

- Control non-fugitive coal dust emissions.
- Develop and implement a management plan for controlling outdoor fugitive coal dust emissions. The plan must describe control measures that will be taken during routine and non-routine operations.

For Further Assistance Contact:

●**Wisconsin Department of Natural Resources, Bureau of Air Management; Environmental Analysis & Outreach Section**
Phone: 608/264-9218
Website: dnr.wi.gov/org/aw/air/

● **Wisconsin Department of Commerce, Small Business Clean Air Assistance Program**
Renee: 608/264-6153
Tom: 608/267-9214
Website: www.wienvirohelp.com

●**University of Wisconsin Extension-Solid & Hazardous Waste Education Center (SHWEC)**
Phone: 608/262-0385
Website: www.uwex.edu/shwec/

Look for additional fact sheets on:
- Due Diligence and Safe Harbor
- Incidental Emitters
- Compliance Options

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